

WHAT IS CLAIMED IS:

1. A hydraulic circuit comprising:

a hydraulic pump;

a hydraulic actuator;

an accumulator fluidly connected between the hydraulic pump and the hydraulic actuator, the accumulator having an inflow passage through which a hydraulic fluid discharged from the hydraulic pump is introduced into a hydraulic fluid chamber of the accumulator and a discharge passage from which the hydraulic fluid from the hydraulic fluid chamber is discharged to the hydraulic actuator; and

a valve mechanism which restricts the supply of hydraulic fluid to the hydraulic actuator when the pressure in the hydraulic fluid chamber is less than a set pressure and which releases the restriction on the supply of hydraulic fluid to the hydraulic actuator when the pressure in the hydraulic fluid chamber is at least the set pressure.

2. A hydraulic circuit according to claim 1, wherein the valve mechanism is installed inside the accumulator.

3. A hydraulic circuit according to claim 2, wherein the accumulator operates by expansion and contraction of a bellows which divides a pressure space into a gas chamber and the hydraulic fluid chamber, and the valve mechanism comprising:

a pipe which is coaxially disposed in the inflow passage and forming the discharge passage at its center; and

a valve spool which is provided on a movable plate of the bellows and positioned so as to be able to fit into and disengage from the pipe.

4. A hydraulic circuit according to claim 2, wherein the accumulator operates by expansion and contraction of a bellows which divides a pressure space into a gas chamber and the hydraulic fluid chamber, the accumulator having a piston which moves with the bellows, and the valve mechanism comprising:

a pipe which is coaxially disposed in the inflow passage and forming the discharge passage at its center; and

a valve spool which is provided on the piston and positioned so as to be able to fit into and disengage from the pipe.

5. A hydraulic circuit according to claim 2, wherein the accumulator operates by expansion and contraction of a bellows which divides a pressure space into a gas chamber and the hydraulic fluid chamber, and the valve mechanism comprising:

a pipe which is coaxially disposed in the inflow passage of a cylindrical member and forming the discharge passage at its center;

an upper cylindrical portion which is integrally formed with the cylindrical member and projects towards the upper end of the hydraulic fluid chamber;

a cylindrical valve body which fits on the upper end of the pipe so as to be able to move up and down on the pipe and which can interfit with and disengage from the upper end of the upper cylindrical portion; and

a spring which is disposed between the cylindrical valve body and

the upper cylindrical portion and which biases the cylindrical valve body upwards when the cylindrical valve body is pressed downwards by a movable plate of the bellows.

6. A hydraulic circuit according to claim 2, wherein the accumulator operates by expansion and contraction of a bellows which divides a pressure space into a gas chamber and the hydraulic fluid chamber, and the valve mechanism comprising:

    a rod which is provided on a movable plate of the bellows and positioned so as to be able to fit into and disengage from the discharge passage; and

    a sealing ring which fits on the outer periphery of the rod and positioned so as to be able to fit into and disengage from the discharge passage, the sealing ring has a narrow air discharge groove for discharging air from the hydraulic fluid chamber.

7. A hydraulic circuit according to claim 2, wherein the accumulator operates by expansion and contraction of a bellows which divides a pressure space into a gas chamber and the hydraulic fluid chamber, and the valve mechanism comprising:

    an annular valve seat which is secured to an end of the discharge passage; and

    a valve body which is provided on a movable plate of the bellows and can seat and unseat with respect to the valve seat.

8. A hydraulic circuit according to claim 1, wherein the valve mechanism

comprises a solenoid valve which is disposed in the discharge passage connecting the hydraulic fluid chamber of the accumulator and the hydraulic actuator and which closes the discharge passage when the pressure in the hydraulic fluid chamber is less than a set pressure and opens the discharge passage when the pressure in the hydraulic fluid chamber is at least the set pressure.